# Great Recognition

World-class platforms, applications, and the people to make the most of both can result in world-class recognition. At Lawrence Livermore, it does! Recent recognition for Computation's excellence is reflected, in the Top500 Computers list and in R&D 100 Awards.

### *Top500*

BlueGene/L (BG/L) maintained its position as the world's fastest supercomputer, according to the TOP500 list, released in June 2005. Using the industry standard LINPACK benchmark BG/L performed 136.8 teraflops (TF, or trillion operations per second), which outpaced the second-ranked machine by a substantial margin of 45.6 TF. Impressively, BG/L was only performing at 38 percent of its anticipated peak speed at the time of ranking. Eleven other LLNL machines made the list, including Thunder (7th), pURPURA (13th), MCR (34th), and ASC White (35th).

BG/L originally claimed the Number 1 position on the TOP500 list in November 2004, when it was just a 16-rack system performing 70.7 TF. It will ultimately be a 64-rack system performing at a peak speed of 360 TF. As of July 2005, BG/L is faster than the collective performance of all 500 machines that made the list in November 2001.

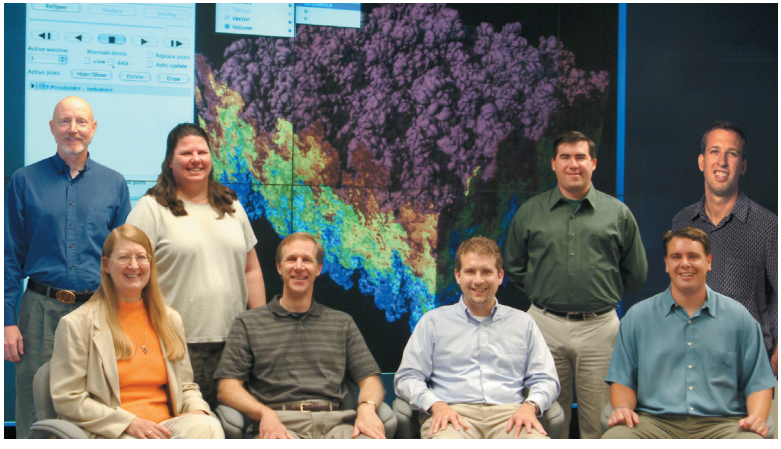
The Top500 list ranks the 500 fastest computers in the world based on their performance using the LINPACK benchmark.

### *R&D 100 Awards*

In 2004 and 2005, Laboratory computer scientists won R&D100 Awards for developing visualization software. The 2005 winner, VisIt, is a visualization tool for the parallel processing of large data sets, including simulations comprising trillions of bytes. Problems that must run days or weeks on the world's most powerful supercomputers can be visualized and displayed within seconds using VisIt.

Additionally, two computer scientists —David Pletcher and Jim Schek— worked on the LLNL team that developed the Adaptable Radiation Area Monitor, a detection tool that could play an important role in protecting the nation from radiological or nuclear attack. The Lab shared this award with Innovative Survivability Technologies of Goleta, CA, which licensed the technology in January 2004.

Winners receive plaques from the trade journal R&D Magazine for being among the top 100 industrial innovations world-wide. "These awards demonstrate that DOE scientists and researchers are hard at work developing the technologies of the future," Secretary of Energy Samuel Bodman asserted. "In the past, breakthroughs like these have played an important role in both our economic and national security."



*The VisIt team earned an R&D 100 award for interactive visualizations such as the one pictured at left, a Rayleigh-Taylor instability simulation with 1.2 billion elements. This is a somewhat modest calculation compared to the 12.7 billion element simulation VisIt has visualized.*

**http://www.llnl.gov/comp/opportunities/**

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